Amendments to the Claims: Claims 1-4, 6-8, 11 and 16-18 are amended. Claims 9, 10 and 19 are canceled. Claims 20-22 are added. This listing of claims will replace all prior versions and listings of claims in the application:

| 1 | 1. (currently amended) A method for making an a custom-tit palatal |
|----|--|
| 2 | arch expander for a patient, the method comprising: |
| 3 | acquiring at least one digital scan representing at least a portion of upper |
| 4 | teeth and a palate of the patient [[scanning the patient's dentition]]; |
| 5 | fabricating [[an appliance adapted to be positioned between posterior teeth |
| 6 | and a palatal arch, the appliance having first and second movable portions]] a first portion |
| 7 | of the custom-fit palatal arch expander, the first portion having a plurality of cavities for |
| 8 | receiving posterior teeth on one side of the palate and a palatal portion extending toward |
| 9 | a centerline of the palate; |
| 10 | fabricating a second portion of the arch expander, the second portion |
| 11 | having a plurality of cavities for receiving posterior teeth on an opposite side of the palate |
| 12 | and a palatal portion extending toward the centerline of the palate; and |
| 13 | providing coupling an expander expansion member between the first and |
| 14 | second portions, [[of the appliance]] |
| 15 | wherein each of the plurality of cavities is specifically configured to fit |
| 16 | over one of the posterior teeth of the patient, based on the shapes of the posterior teeth as |
| 17 | represented in the digital scan(s). |
| 1 | 2. (currently amended) The method of claim 1, further comprising |
| 1 | |
| 2 | adjusting the expander expansion member to vary the spacing between the first and |
| 3 | second portions [[of the appliance]]. |
| 1 | 3. (currently amended) The method of claim 1, wherein the expander |

(currently amended) The method of claim 1, wherein the expander

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4.

expansion member comprises one or more screws.

expansion member comprises one or more springs.

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| 5. | (original) Th | ne method | of claim 1, wherein the first a | nd second |
|---------------------|--|--|---|---|
| portions comprise | e super-elastic niti | nol. | | |
| 6. | (currently an | nended) T | he method of claim 1, wherein | n the |
| | | , | | |
| | | | | , 14504 |
| deposition moder | mg, 5-D printing, | or sciectiv | e laser sintering. | |
| 7. | (currently an | nended) T | he method of claim 1, wherein | n <u>acquiring</u> the |
| seanning at least | one scan comprise | es intra-ora | l scanning. | |
| | | | | |
| | ` | · | he method of claim 1, wherein | n acquiring the |
| scanning at least | one scan comprise | es: | | |
| tak | king an impression | of the pat | cient's teeth; | |
| pla | acing the impression | on in a sca | nner; and | |
| ge | nerating a 3D mod | del of the i | mpression. | |
| 9- | 10. (canceled) | | | |
| 11 | . (currently an | nended) A | custom-fit dental appliance f | or expanding |
| a palatal arch of a | patient, the applia | ance comp | rising: | |
| <u>a f</u> | irst portion having | g a pluralit | y of cavities for receiving pos | terior teeth on |
| one side of the pa | tient's palate and | a palatal p | ortion extending toward a cen | terline of the |
| palate; | | | | |
| <u>a s</u> | econd portion hav | ing a plura | ality of cavities for receiving | osterior teeth |
| on an opposite sic | le of the patient's | palate and | a palatal portion extending to | ward the |
| centerline of the r | palate, [[a shell inc | cluding]] <u>v</u> | wherein the first and second po | ortions each |
| include at least or | ne layer of a polyn | neric mate | rial [[and having a cavity which | ch fits closely |
| over one or more | posterior teeth, the | e shell hav | ring first and second moveable | portions;]]; |
| and | | | | |
| an | expander position | ed coupled | d between the first and second | portions [[of |
| the appliance]], | • | _ | _ | |
| | | | | |
| wh | nerein each of the | plurality o | f cavities is specifically config | gured to fit |
| | portions comprises 6. appliance is first and deposition model 7. seanning at least of take play get 11 a palatal arch of and and get one side of the parpalate; on an opposite side centerline of the particulate at least or over one or more and and get | 6. (currently an appliance is first and second portion deposition modeling, 3-D printing, 7. (currently an seanning at least one scan comprise taking an impression placing the impression placing the impression generating a 3D model generatin | 6. (currently amended) T appliance is first and second portions are fabrideposition modeling, 3-D printing, or selective 7. (currently amended) T seanning at least one scan comprises intra-ora 8. (currently amended) T seanning at least one scan comprises: taking an impression of the patiglacing the impression in a scan generating a 3D model of the i 9-10. (canceled) 11. (currently amended) A a palatal arch of a patient, the appliance comprises a first portion having a plurality one side of the patient's palate and a palatal propalate; a second portion having a plurality on an opposite side of the patient's palate and centerline of the palate, [[a shell including]] we include at least one layer of a polymeric material over one or more posterior teeth, the shell have and | 6. (currently amended) The method of claim 1, wherein appliance is first and second portions are fabricated using stereolithography deposition modeling, 3-D printing, or selective laser sintering. 7. (currently amended) The method of claim 1, wherein seanning at least one scan comprises intra-oral scanning. 8. (currently amended) The method of claim 1, wherein seanning at least one scan comprises: taking an impression of the patient's teeth; placing the impression in a scanner; and generating a 3D model of the impression. 9-10. (canceled) 11. (currently amended) A custom-fit dental appliance one side of the patient, the appliance comprising: a first portion having a plurality of cavities for receiving posone side of the patient's palate and a palatal portion extending toward a central palate; a second portion having a plurality of cavities for receiving to on an opposite side of the patient's palate and a palatal portion extending to centerline of the palate, [[a shell including]] wherein the first and second poinclude at least one layer of a polymeric material [[and having a cavity which over one or more posterior teeth, the shell having first and second moveable and an expander positioned coupled between the first and second |

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16 represented in at least one digital scan(s) of at least some of the patient's teeth and the 17 patient's palate. 12. (original) The dental appliance of claim 11, wherein the expander 1 2 is user-adjustable to vary a spacing between the first and second portions of the 3 appliance. 1 13. (original) The dental appliance of claim 11, wherein the expander 2 comprises one or more screws. 14. (original) The dental appliance of claim 11, wherein the expander 1 2 comprises one or more springs. 1 15. (original) The dental appliance of claim 11, wherein the first and 2 second portions comprise super-elastic nitinol. 1 16. (currently amended) The dental appliance of claim 11, wherein the 2 shell is first and second portions are fabricated using stereo-lithography, fused deposition 3 modeling, or selective laser sintering. 1 17. (currently amended) The dental appliance of claim 11, wherein the shell shape of each cavity of the first and second portions is determined by intra-orally 2 3 scanning a patient. 1 18. (currently amended) The dental appliance of claim 11, wherein the 2 shell shape of each cavity of the first and second portions is determined from digitally 3 captured scans of a patient's dentition and palatal arch. 19. (canceled) 1 20. (new) The dental appliance of claim 11, wherein the plurality of

cavities are configured to allow the patient to remove and replace the dental appliance.

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| I | 21. (new) The dental appliance of claim 11, wherein the plurality of | | | | |
|----|--|--|--|--|--|
| 2 | cavities are configured to retain the dental appliance without requiring brackets or other | | | | |
| 3 | fixtures to be adhered to the patient's teeth. | | | | |
| 1 | 22. (new) A method for expanding a palatal arch of a patient, the method | | | | |
| 2 | comprising: | | | | |
| 3 | acquiring at least one digital scan representing at least a portion of upper teeth | | | | |
| 4 | and a palate of the patient; | | | | |
| 5 | fabricating, based on the scan(s), a custom-fit arch expander for the patient, | | | | |
| 6 | the arch expander comprising: | | | | |
| 7 | a first portion having a plurality of cavities for receiving posterior | | | | |
| 8 | teeth on one side of the palate and a palatal portion extending toward a centerline of the | | | | |
| 9 | palate; | | | | |
| 10 | a second portion having a plurality of cavities for receiving posterior | | | | |
| 11 | teeth on an opposite side of the palate and a palatal portion extending toward the centerline of | | | | |
| 12 | the palate; and | | | | |
| 13 | coupling an expansion member between the first and second portions, | | | | |
| 14 | wherein each of the plurality of cavities is specifically configured to fit over one of the | | | | |
| 15 | posterior teeth of the patient, based on the shapes of the posterior teeth as represented in the | | | | |
| 16 | digital scan(s); and | | | | |
| 17 | placing the arch expanded in the patient's mouth to expand the patient's | | | | |
| 18 | palatal arch. | | | | |

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